

SHTEYNBERG, B. Sh.

Cand Tech Sci - (diss) "Study of corrosion resistance of sheet cast iron in the atmosphere." Moscow, 1961. 17 pp; (Ministry of Higher and Secondary Specialist Education RSFSR, Krasnoyarsk Inst of Non-Ferrous Metals imeni M. I. Kalinin); 200 copies; price not given; (KL, 7-61 sup, 249)

S/081/62/000/002/052/107  
B156/B101

AUTHORS: Afanas'yev, A. S., Shteynberg, B. Sh.

TITLE: The corrosion resistance of iron plate

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 2, 1962, 324-325.  
abstract 2I160 (Sb. "Polucheniye izdeliy iz zhidk. met. c  
uskoren. kristallizatsiyey", Moscow-Kiyev, Mashgiz, 1961,  
281-296)

TEXT: The effects of the composition of the atmosphere, its corrosive properties, the structure and chemical composition of the iron, and the alloying additives on the corrosion resistance (CR) of the iron have been investigated. The CR was studied by conducting laboratory experiments and field and full scale tests. The comparison metal used was mild roofing steel plate of the following compositions: Cu 0.15, Ni 0.20 and Cr 12 %. It was established that, in atmospheres not contaminated with corrosive gases, the plate iron had a CR 150-250 % higher than that of the roofing steel. The CR of iron and steel are greatly reduced in atmospheres contaminated with corrosive gases. The relative decrease in the CR of the

Card 1/2

S/081/62/000/002/052/107  
B156/B101

The corrosion resistance of iron plate

iron is much higher than the figure for the steel. The structure of the metallic base of the plate iron has little effect on its CR in the atmosphere. The CR of plate irons with ferritic, perlitic or ferritic-perlitic structures are practically the same, while iron with a ferritic-cementite structure is rather less resistant. Increasing the P content of iron to 0.3-0.6 % slightly improves its CR (by ~10 %). Increasing the S content to 0.23 % or more greatly improves (by 25 %) the CR of iron in industrial region atmospheres. Adding 0.5-1.0 % of Al to iron reduces its CR by 15-30 %. Adding small amounts of Cu to iron greatly improves its CR. The ideal Cu content of iron is 0.2 %. Variation in electrode potentials over a period of time, and the potential curves for plate iron in water saturated with  $O_2$ , show that the potential of Cu-iron is more positive than that of iron not containing Cu; Cu-iron is more easily polarized cathodically or anodically than iron not containing Cu. The elements occurring therefore exert less effect, this explaining the higher CR of Cu-iron. [Abstracter's note: Complete translation.]

Card 2/2

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5 1310

24014  
S, 080/61-034/006/017/020  
Dec 7/1961

AUTHOR: Sateynberg, B. Sh.

TITLE: Anticorrosive properties of chromium plating in a  
mild tetrachromate electrolyte

PERIODICAL: Zhurnal prikladnoy khimii, v. 34, no. 6, 1961.  
1969 - 1371

TEXT: To illustrate the protective properties of plating in tetrachromate electrolyte comparative corrosion tests were carried out on models with various types of protective and decorative plating in a moist atmosphere contaminated by sulphur dust. Fourteen series of low carbon steel models were used with various types and thicknesses of plating in accordance with GOST 390-58, plus single-layered tetrachromate and milk chromium plating. The models were polished before plating. Chemical and electrochemical processes were carried out on special isolated suspended devices on each of which 12 models were mounted. protected by surrounding metal

Card 175

24014

8/080/61-3/4/006/017/020

Anticorrosive properties of ...

D417/B305

screens from local electrolytic effects. 9 of each set were subjected to corrosion tests, the others acting as controls. Special attention was paid to electrolyte composition and the maintenance of optimum conditions. The stability of the metal coating was tested by bending the controls until they broke. Layer thickness was controlled by a magnetic thickness gage MT.2. Tests were conducted in a moisture chamber of a roundabout type and, the experimental process being controlled automatically, identity of conditions was assured. The atmosphere used was moist and highly contaminated by sulphur gas: moisture 5 min. interval 55 min. etc.; 5% SO<sub>2</sub> by volume was introduced by burning a weighed amount of sulphur once every eight hours. Relative humidity, controlled by an August psychrometer in the chamber, 96-100%; temperature 35° ± 5°C. The chamber worked eight hours out of 24; the rest of the time the models were in a stopped chamber at a relative humidity of about 100%. The protective properties were estimated by periodic examination of the models. Conclusions: a) Under the conditions of these tests tetrachromate plating in cold tetrachromate electrolyte is, as re-

Card 246

Anticorrosive properties of ...

24014  
S/080/61/034/006/017/020  
D247/D305

gards protective properties, significantly inferior to multi-layered plating by substances in groups S and Zh by GOST 3002-58; b) Tetrachromate plating of  $30\mu$  thickness on steel is as effective as substances of group L ( $10\mu$  thickness) by GOST 3002-58; c) At 40-42 thickness tetrachromate plating on steel is almost as good as milk chromium; at lesser thickness it is inferior. There are 1 table and 6 references: 5 Soviet-bloc and 1 non-Soviet-bloc. The reference to the English-language publication reads as follows: F. Taylor, *Electroplate. a. Metal finishing*, V. 4, 1952.

SUBMITTED: August 8, 1960

Card 3/3

S/122/62/000/008/002/004  
D262/D308

AUTHORS:

Shteynberg, B.Sh., and Bogakovskiy, N.A.,  
Engineers

TITLE:

Electrolytic zinc plating in zinc-ammonium  
electrolytes

PERIODICAL:

Vestnik mashinostroyeniya, no. 8, 1962,  
41 - 45

TEXT:

The article describes a series of experiments conducted in order to explore the possibilities of zinc-ammonium electrolytes. The experiments included: Investigation of coating and diffusing powers of electrolytes, adhesion strength of precipitation to metal base, structure and porosity of precipitate, behavior of electrolytes when working in bell-baths. Several typical electrolytes were used in the experiments, the results of which are recorded in the form of tables and graphs, and analyzed. The sulphate-ammonium chloride electrolytes: CX A - 1, CX A - 11 (SKhA - 1, SKhA - 11) are considered to be best with

Card 1/2

Electrolytic zinc plating ...

S/122/62/000/008/002/004  
D262/D308

regard to their technical and economic possibilities. There are  
4 tables and 2 figures.

Card 2/2

S/122/62/000/012/006/007  
D262/D308

AUTHORS: Shteynberg, B. Sh., Engineer and  
Bogakovskiy, N.A., Engineer

TITLE: Repeated utilization of the working  
solution in chemical nickel-plating

PERIODICAL: Vestnik mashinostroyeniya, no. 12,  
1962, 65 - 66

TEXT: As a result of numerous experiments the  
most stable (least prone to self-discharge) alkaline solution  
suitable for chemical nickel-plating at a working temperature  
of  $85 \pm 3^{\circ}\text{C}$  has been developed. It consists of 20 g/liter  $\text{NiCl}_2$   
 $\times 6\text{H}_2\text{O}$ , 20 g/l of  $\text{NaH}_2\text{PO}_2 \times \text{H}_2\text{O}$ , 45-47 g/l of  $\text{Na}_3\text{C}_6\text{H}_5\text{O}_7 \times 5.5 \text{H}_2\text{O}$ ,  
30 g/l of  $\text{NH}_4\text{Cl}$  with an addition of 50-55 ml/l of 25% aq.  $\text{NaOH}$   
(to pH 8 - 9). The solution is corrected by adding 10 g of  
nickel chloride, 12.5 g of sodium hypophosphite and 0.055 S (in g)

Card 1/2

Repeated utilization ...

S/122/62/000/012/005/007  
D262/D308

of citric acid after treating an area  $S = 28 V/\delta$ , V being the solution volume in liters and  $\delta$  the thickness of plating in microns. The pH value is corrected by adding 12.5%  $\text{NH}_4\text{OH}$ . The working solution, may be re-used up to 20 times with corrections as described above, without noticeable deterioration in quality of plating.

Card 2/2

SHTEYNBERG, B. Sh., inzh.; BOGAKOVSKIY, N. A., inzh.

Repeated use of the working solution during chemical nickel plating. Vest. mashinostr. 42 no.12:65-66 D '62.  
(MIRA 16:1)

(Nickel plating)

AUTHOR: Shteynberg, B.V. SOV-26-58-8-15/51

TITLE: The Lowest Temperature on Earth (Samaya nizkaya temperatura na zemle)

PERIODICAL: Priroda, 1958, Nr 8, p 82 (USSR)

ABSTRACT: In the Antarctic Region, a temperature of  $-78^{\circ}\text{C}$  was measured by the Soviet station Vostok on May 3,  $-79^{\circ}\text{C}$  by the station Sovetskaya on May 9 and 10, and  $-81^{\circ}\text{C}$  on June 26 and 27 by the same station. These temperatures were reached in the beginning of winter not in midwinter. A temperature of  $80^{\circ}\text{C}$  frost had been calculated on the base of the heat radiation balance of the Antarctic Continent. In spite of these temperatures, storms were observed with speeds of 15 and 20 m/sec. There is one table.

ASSOCIATION: Sovet po antarkticheskim issledovaniyam Akademii nauk SSSR (Council on Antarctic Investigations of the USSR Academy of Sciences)

1. Antarctic regions--Temperature 2. Storms--Antarctic regions  
3. Weather stations--Antarctic regions--USSR

Card 1/1

ZARUBIN, L.S., kand. tekhn. nauk; KAMINSKIY, V.S., kand. tekhn. nauk;  
SHIAU, A.V., inzh.; SHTEYNBERG, D.I., inzh.

Wear of the main joints and parts of a centrifugal coal  
dewatering filter. Sbor. inform. po obog. i brik. ugl. no.3:  
3-10 '57. (MIRA 12:9)  
(Coal preparation--Equipment and supplies)  
(Centrifuges)

SHTEYNBERG, David Iosifovich, SHLAU, Anatoliy Vladimirovich, RUKOV, N.A.,  
otv.red.; LOMILINA, L.H., tekhn.red.

[Continuous centrifuge for dewatering fine coal] Osaditel'nye  
shnekovye tsentrifugi dlia obezvozhivaniia melkogo uglia. [Moskva]  
(MIRA 11:9)  
Ugletekhizdat, 1958. 83 p.  
(Coal preparation)  
(Centrifuges)

SHTEYNBERG, D.I., inzh.

Dewatering the fine products of coal preparation and clarification  
of the pulp waters by means of automatic filter presses. Obog. i brik.  
ugl. no. 7:29-32 '58. (MIRA 12-7)  
(Coal preparation) (Filter presses)

BRUK, Ye.L., inzh; MESHENGISSER, M.Ya., inzh; SHTEYNBERG, D.I., inzh.

Dewatering coal flotation products on automatic filter presses.  
(MIRA 11:12)  
Ugol' 33 no.12:29-33 D '58.

1. Vsesoyuznyy nauchno-issledovatel'skiy institut po obogashcheniyu i  
briketirovaniyu ugley (for Bruk, Shteynberg). 2. Ukrainskiy nauchno-  
issledovatel'skiy institut khimicheskogo mashinostroyeniya (for  
Meshengisser).  
(Coal preparation) (Filter presses)

"APPROVED FOR RELEASE: 07/13/2001

CIA-RDP86-00513R001550020012-5

SHTEYNBERG, D. M.

DECEASED

1964

PESTS

1963

APPROVED FOR RELEASE: 07/13/2001

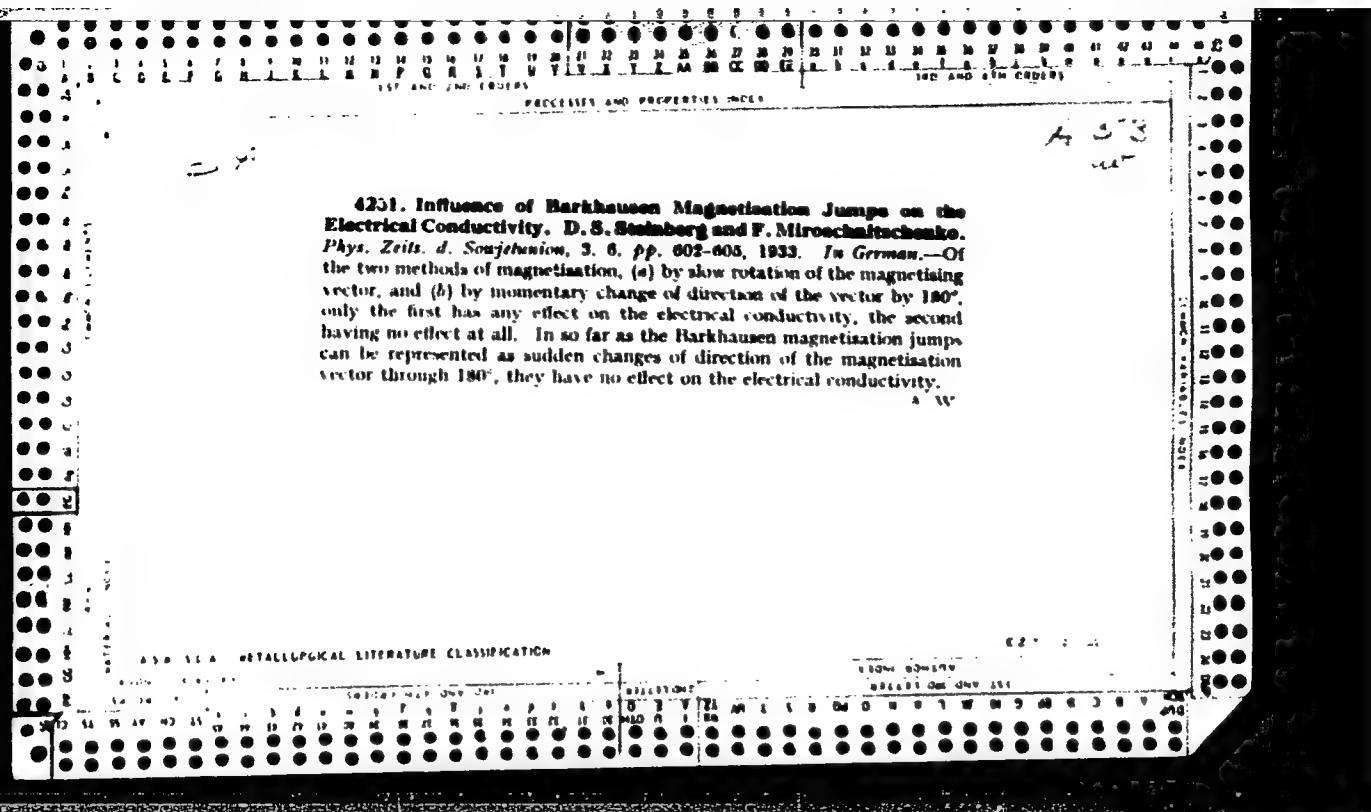
CIA-RDP86-00513R001550020012-5"

GULLYYEV, A.; SHTEYNBERG, D.M., prof., rukovoditel' raboty

Insect pests of field crops of the Tedzhen Oasis. Izv. AN Turk.  
SSR. Ser. biol. nauk no. 5:71-75 '65.

(MIRA 18:11)

1. Institut pustyn' AN Turkmeneskoy SSR.



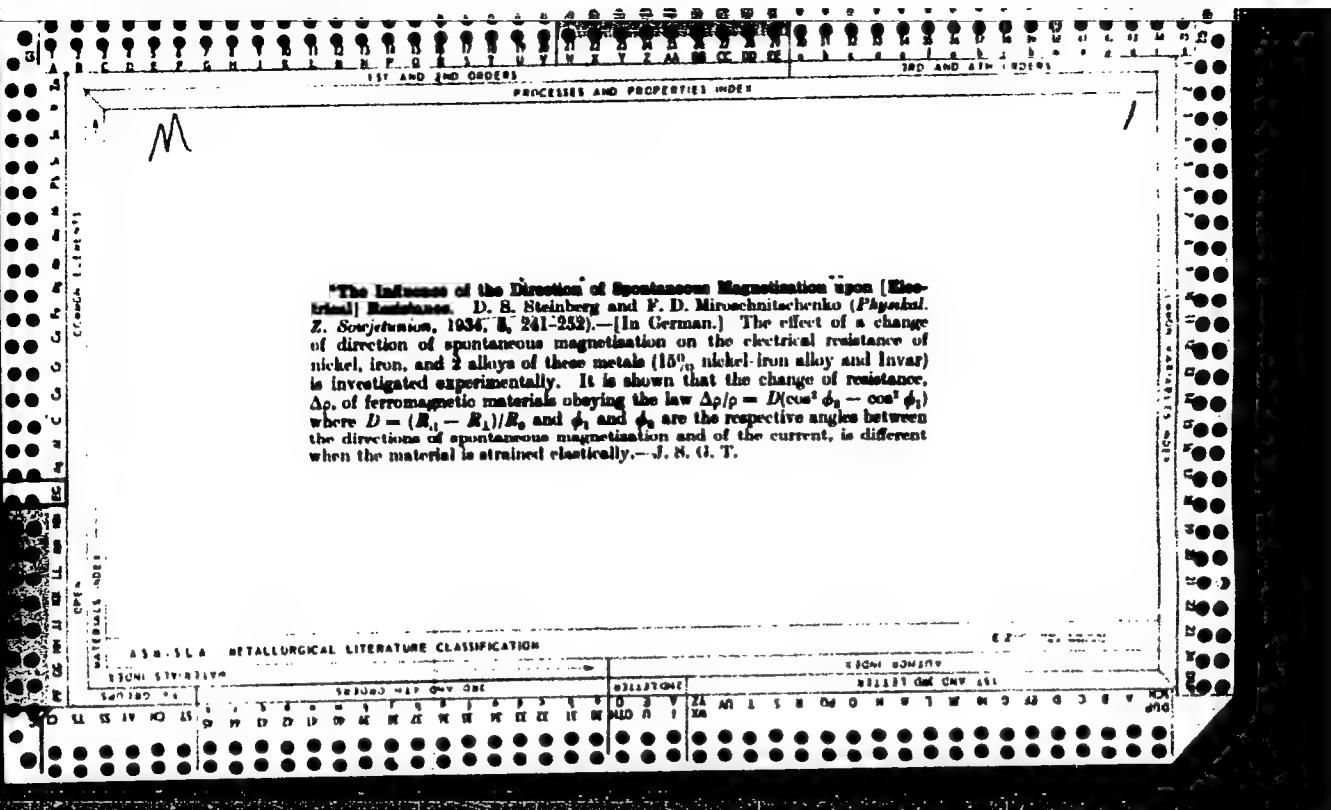
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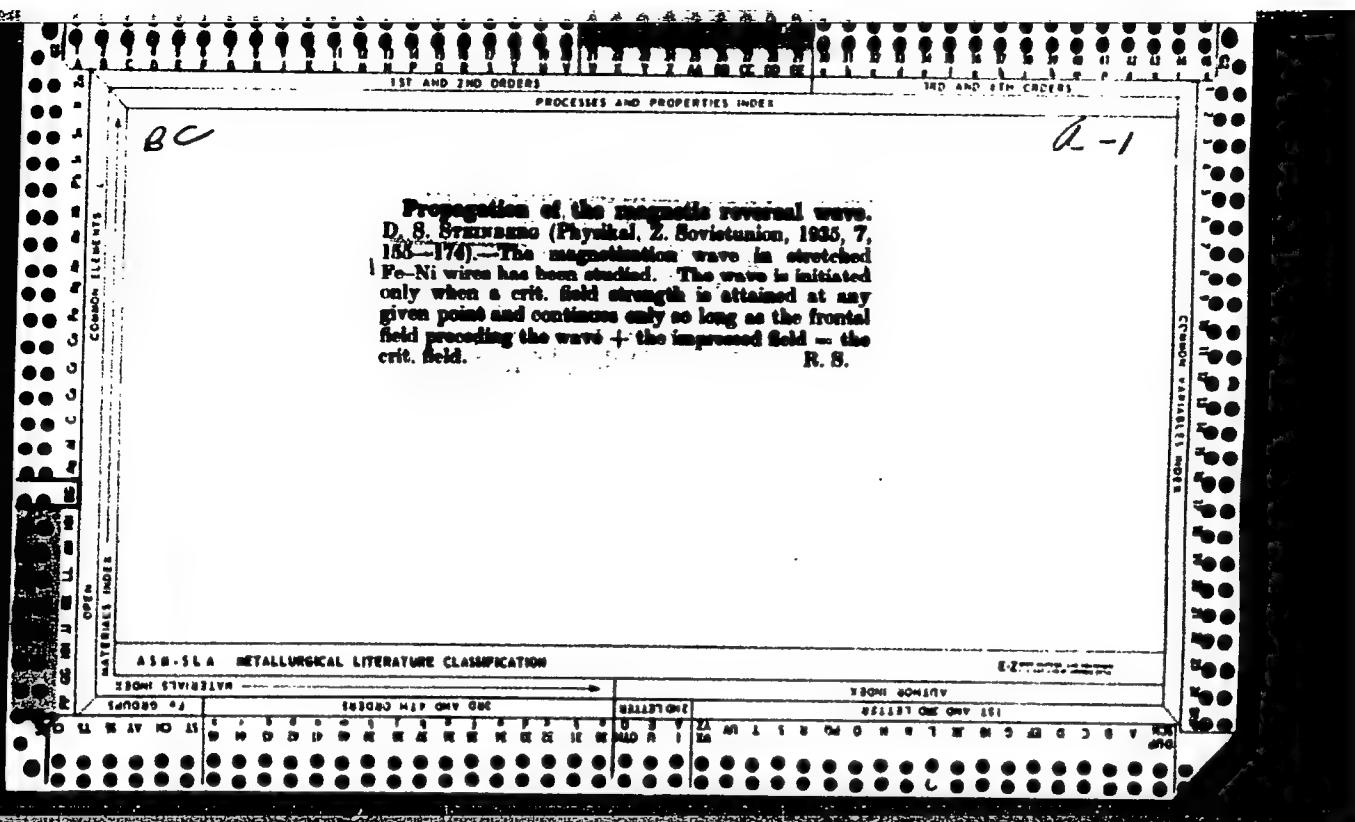
The layer-like magnetization in magnetite crystals. N. Ya. Müller and D. S. Shteinberg. *J. Exptl. Theoret. Phys. (U. S. S. R.)* 4, 717-722 (1934).—Magnetization was in layers perpendicular to the octahedral faces and having a thickness of 0.05-0.3 mm. In rolled Ni the direction of magnetization is in the direction of the greatest compression. F. H. Rathmann

P. H. Rathmann

ASA 314 METALLURGICAL LITERATURE CLASSIFICATION

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001550020012-5"





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## PROCESSES AND PROPERTIES AND

**Schelite deposits of Kudin in the Urals.** D. N. Shchit in *Zhurn. Sov. Geol.*, v. No. 2, 186 (1911), described schelite deposits closely associated with irregular crystals with K feldspar or as bipyramidal crystals with quartz are described. Other associated minerals are pyrite, molybdenite, galena partially converted to cerussite, apatite and sphene. The schelite crystals are usually idiomorphous and younger than those of feldspar and quartz. The apatite evidently was of very early formation. Further W<sub>4</sub> deposits in the region of the Urals are indicated.

indicated.  
F. H. Rathmann

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ASH-SLA METALLURGICAL LITERATURE CLASSIFICATION

ALLEGED PAPER

APPROVED FOR RELEASE: 07/13/2001

CIA-RDP86-00513R001550020012-5"

SHTEYNBERG, D.S.

Interrelation of contact-metasomatic and so-called "magmatic" iron  
ore deposits of the Urals. Zap.Vses.min.ob-va 82 no.4:247-255 '53.  
(MLRA 7:1)

1. Deystvitel'nyy chlen Vsesoyuznogo Mineralogicheskogo obshchestva.  
(Ural Mountains--Iron ores) (Iron ores--Ural Mountains)

SHTEYNBERG, D.S.; PODNOGIN, A.K.

Materials on the geology and peteology of the Akhtenskoye deposits  
of limonites and siderites in the Southern Urals. Trudy Sver.gor.  
inst. no. 26:45-86 '56. (MLRA 10:3)  
(Ural Mountains--Limonites) (Ural Mountains--Siderite)

SHTEYNBERG, D. S.

✓ Anthraxolite from the Volkovak deposits on Ural, D. S. Shtenberg. *Zapiski Vsesoyuz. Mineralog. Obshchestva* 85, 416-18 (1960). Orlov and Uspenskii (1938) classified anthraxolite as a product of destructive distn. of org. material by local thermal effects, e.g. intrusions; chiefly, bituminous materials are changed to anthraxolite (pyrobitumene) which is entirely insol. in benzene, CS<sub>2</sub>, etc. A hornfels-like porphyrite tuff (included in the gabbro massive), in which anthraxolite forms small nodules with calcite and dolomite, is characteristic for the occurrence of Volkovak and Lavrovo-Nikolaevsk. The gabbro is decompd. to an aggregate of calcite, chalcedony, and hematite in fine dispersion. The black anthraxolite has a characteristic conchoidal fracture, is brittle, hardness about 3, d. (av.) 1.42, and contains ash 0.35, volatiles 3.30, C 94.3, H 2.81, and moisture 0.30%. Probably, the org. material from which the anthraxolite was formed was of sedimentary character, indicated by the "hornfels" formations.

W. Ritel

SOBOLEV, I.D.; SHTEYNBERG, D.S.

Boris Mikhailovich Romanov, 1893-1956; obituary. Mat. po geol. i  
pol. iskop. Urala no. 6:3-12 '58. (MIRA 12:10)  
(Romanov, Boris Mikhailovich, 1893-1956)  
(Ural Mountains--Geology) /

SHTEYNBERG, D.S.; KRAVTSOVA, L.I.; VARLAKOV, A.S.

Basic geological features of the Kusinskiy gabbroic intrusion and its  
ore deposits. Trudy Gor.-geol. inst. UFAH SSSR no.46:13-40 '59.  
(MIRA 13:11)

(Kusinskiy region-Geology, Structural)  
(Ore deposits)

SHTEYNBERG, D.S.

Osokino-Aleksandrovskoye iron ore deposit in the Central Urals.  
Trudy Gor.-geol. inst. UFAN SSSR no. 35:39-99 '60. (MIRA 14:1)  
(Osokino-Aleksandrovskoye region (Central Urals)--Iron ores)

SHTEYNBERG, D.S.

Intrusive formations in the Urals. Binl.MOIP.Otd.geol. 35 no.4:  
133 Jl-Ag '60. (MIRA 14:4)  
(Ural Mountains—Rocks, Igneous)

SHTEYNBERG, D.S., otv. red.; IGUMNOV, A.N., red.; LUKS, A.A., red.; RONEN-  
SON, B.M., red.; LEVIN, V.Ya., red.; ARDASENOVA, L.P., red. izd-  
va; SEREDKINA, N.F., tekhn. red.

[Guidebook for the field trip to the Vishnevyye Mountains, Karabash,  
and the Il'men Mountains] Putevoditel' ekskursii Vishnevye gory -  
Karabash - Il'menskie gory. Sverdlovsk, 1961. 62 p. (MIRA 14:8)

1. Ural'skoye petrograficheskoye soveshchaniye, 1st.  
(Ural Mountains—Geology—Field work)

IGUMNOV, A.N., red.; OVCHINNIKOV, L.N., red.; SEMENIKHIN, A.I., red.;  
SHTEYNBERG, D.S., ovt. red.; EBERGARDT, M.S., red. izd-va;  
SEREDKINA, N.F., tekhn. red.

[Guidebook for the Tagil-Kushva field trip] Putevoditel' Tagilo-  
Kushvinskoi ekskursii. Sverdlovsk, 1961. 128 p. (MIRA 14:8)

1. Ural'skoye petrograficheskoye soveshchaniye. 1st.  
(Ural Mountains—Geology—Field work)

SHTEYNBERG, D.S., otv. red.; IGUMNOV, A.N., red.; PLOTNIKOV, S.N., red.; SOBOLEV, I.D., red.; FAVORSKAYA, A.P., red. izd-va; SEREDKINA, N.F., tekhn. red.

[Guidebook for the Sverdlovsk excursion] Putevoditel' Sverdlovskoi ekskursii. Sverdlovsk, 1961. 135 p. (MIRA 14:8)

1. Ural'skoye petrograficheskoye soveshchaniye, 1st.  
(Sverdlovsk region—Geology—Field work)

SHTEYNBERG, D.S.; FOMINYKH, V.G.

Composition of accessory titanomagnetite in different genetic  
granitoid types of the Urals. Dokl. AN SSSR 139 no.5:1208-  
1210 Ag. '61. (MIRA 14:8)

1. Predstavлено академиком D.S. Korzhinskим.  
(Ural Mountains --Rocks, Igneous)  
(titan magnetites)

SHTEYNBERG, D.S.; FOMINYKH, V.G.

Distribution of accessory elements in titanomagnetites of the  
Urals. Dokl. AN SSSR 139 no.6:1449-1451 Ag '61.

(MIRA 14:8)

1. Gorno-geologicheskiy institut Ural'skogo filiala AN SSSR.  
Predstavлено академиком D.S. Korzhinskim.  
(Ural Mountains—Titanomagnetites)  
(Trace elements)

SHTEYNBERG, D. S.; FOMINYKH, V. G.

On the composition of the titanomagnetites of the Urals.  
Dokl. AN SSSR 147 no.6:1452-1454 D '62.  
(MIRA 16:1)

1. Institut geologii Ural'skogo filiala AN SSSR. Predstavлено  
академиком D. S. Korzhinskim.

(Ural Mountains—Titanomagnetite)

SHTYBERG, I. I., red.; IV KRYZ, A. V., red.

[Igneous activity, metamorphism, metallogeny of the Urals; transactions; magnetism, metamorfiza, metallogenija Urala; trudy. Sverdlovsk, Gorno-geol.in-t. Vol.1. General problems of igneous activity and metallogeny. Peridotite and gabbro formations] Obozrenie voprosy magmatizma i metallogenija. Peridotitovye i gabbrovye formatzioni. 1963. 551 p. Vol.2. [Volcanic formations] Vulkanogennye formatzioni. 1963. 362 p. (MIRA 17:11)

1. Ural'skoye petrograficheskoye soveshchaniye. 1st, Sverdlovsk, 1961.

SHTEFYBERG, D.S.; MALAKHOV, I.A.

Behavior of iron in the process of serpentization. D.S.  
AN SSSR 156 no. 2:355-358 My '64. (MIRA 17 7)

1. Institut geologii Ural'skogo filiala AN SSSR. i redstavleno  
akademikom D.S.Korzhinskim.

SHTEYNBERG, D.S.; MALAKHOV, I.A.; FOMINYKH, V.G.

Genetic significance of the distribution characteristics of the  
iron family elements in the igneous rocks of the Urals. Zap. Vses.  
min. ob-va 93 no.5:591-605 '64. (MIRA 17:11)

1. Institut geologii Ural'skogo filiala AN SSSR.

SHTEYNBERG, D.S.; MALAKHOVA, L.V.

Genetic significance of the iron oxidation rate in biotite in  
igneous rocks. Trudy Inst. geol. UFAN SSSR no.70:21-26 '65.  
(MIRA 18:12)

SHTEYNBERG, D.S.; MALAKHOV, I.A.

Comparative petrochemical characteristics of the different  
types of rocks in the dunite-harzburgite series in the Urals.  
Trudy Inst. geol. UFAN SSSR no.70:39-42 '65. (MIRA 18:12)

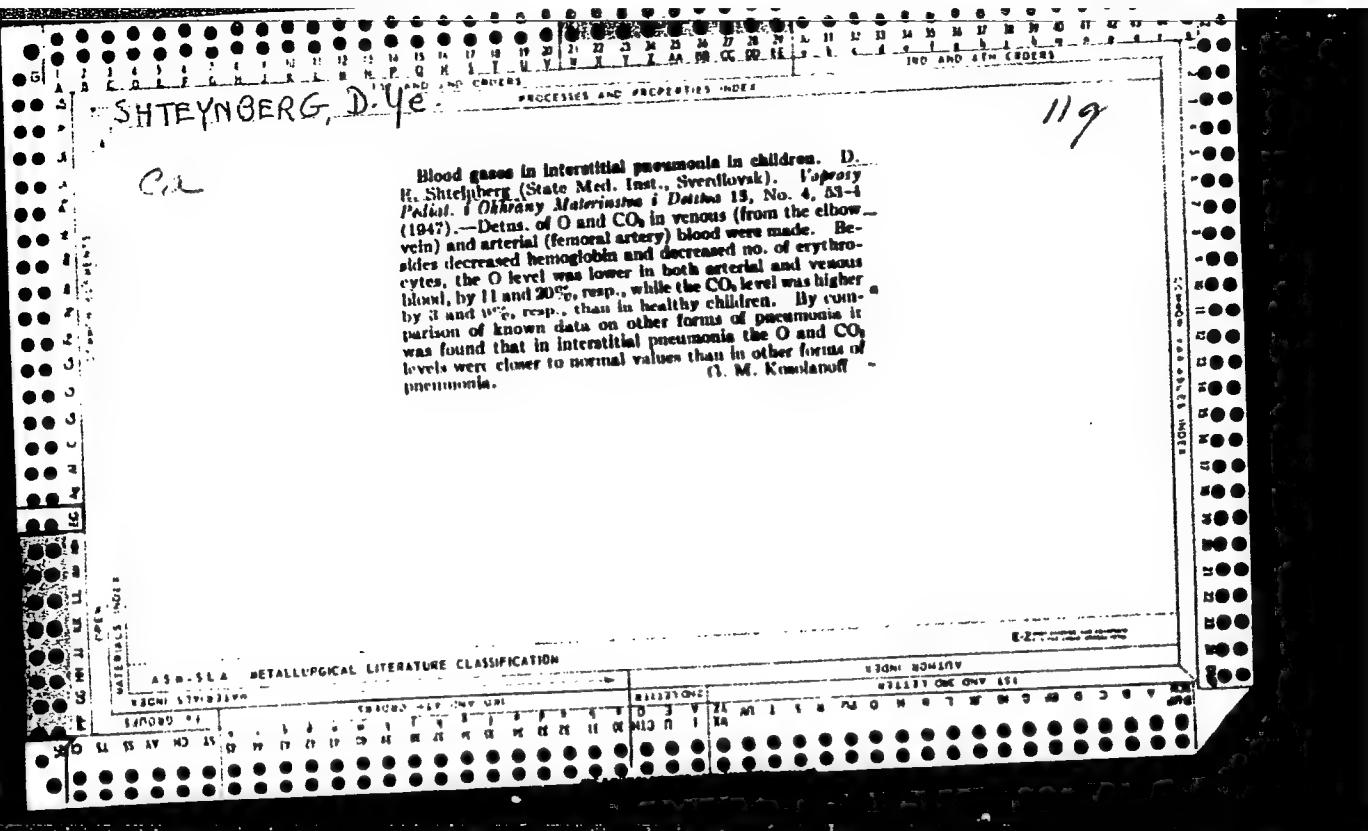
SHTEYNBERG, D.S.; FOMINYKH, V.G.; MAKAROV, V.A.

Composition of pyroxenes in the Kachkanar intrusive complex.  
Trudy Inst. geol. UFAN SSSR no.70: 1965. (MIRA 18:12)

SHTEYNBERG, D.S.; KOROTEEV, V.A.

Possibility of the utilization of the refractive index of  
artificial glass for an approximate determination of the  
chemical composition of effusive rocks in the Urals. Dokl.  
AN SSSR 160 no.4:934-936 F '65. (MIRA 18:2)

1. Institut geologii Ural'skogo filiala AN SSSR. Submitted  
September 21, 1964.



VIL'SHANSKAYA, F.L.; SHTEYNBERG, G.B.

Reduction of microflora in the body resulting from prolonged contact with antibiotics. Antibiotiki 10 no.8:755-760 Ag '65.  
(MIRA 18:9)

1. Moskovskiy nauchno-issledovatel'skiy institut epidemiologii i mikrobiologii i kafedra promyshlennoy gigiyeny TSentral'nego instituta usovershenstvovaniya vrachey, Moskva.

SHTEYNBERG, G.B., sanitarnyy vrach.

Industrial hygiene in synthomycin production. Gig. i san. 21 no.1:  
(MLRA 9:5)  
50-52 Ja. '56

1. Iz sanitarno-epidemiologicheskoy stantsii Moskvoretskogo rayona  
Moskvy.

(CHLOROMYCETIN, prep. of  
indust. hygiene)  
(INDUSTRIAL HYGIENE  
Min prod. of chloramphenicol)

MELLER, M.S., kandidat meditsinskikh nauk; SHTEYNBERG, G.B., sanitarnyy  
vrach.

Experience in detailed analysis of temporary incapacity to work  
due to illness. Gig. i san. 21 no.10:36-43 0 '56. (MIRA 9:11)

1. Iz sanitarno-epidemiologicheskoy stantsii Moskvoretskogo rayona  
Moskvy

(INDUSTRY AND OCCUPATIONS  
absenteeism due to illness methods of calculating in  
factories)

SHTEYNBERG, G. B. Cand Med Sci -- (diss) "Problems of labor hygiene in the  
production of synthomycin and levomycetin." Mos, 1958. 16 pp (Min of Health  
USSR. Central Inst for the Advanced Training of Physicians), 250 copies  
(KL, 11-58, 122)

-133-

AFANAS'YEVA, L.V.; ARKHIPOV, A.S., prof., red.; SHTEYNBERG, S.B.,  
red.

[Industrial dust and its hygienic significance] Promyshlennaya  
pyl' i ee gigienicheskoe znachenie. Moskva, Tsentral.  
in-t usovremenizovaniia vrachei, 1963. 23 p.  
(MIRA 17:8)

AFANAS'YEVA, L.V.; SHTEYNBERG, G.B.; red.

[Control of industrial dust in various branches of industry]  
Bor'ba s promyshlennoi pyl'iu v otdel'nykh otrasiakh pro-  
myshlennosti. Moskva, TSentr. in-t usovershenstvovaniia  
vrachei, 1963. 39 p. (MIRA 17:11)

SHTEYNBERG, G.B.; KRASNOVA, I.N.; ZISERMAN, V.Ye.

Results of sanitary-hygienic and microbiological inspection of  
antibiotic industries. Antibiotiki 9 no.1:34-38. Ja '64.

(MIRA 18:3)

1. Kafedra promyshlennoy gigiyeny (ispolnyayushchiy obyazannosti  
zaveduyushchego Z.A.Volkova), kafedra mikrobiologii (zav. --  
deystvitel'nyy chlen AMN SSSR prof. Z.V.Yermol'yeva) TSentral'nogo  
instituta usovershenstvovaniya vrachey, Mikologicheskiy dispanser,  
Moskva.

SHTEYNBERG, G. G., (Engr)

Mining Engineering

Dissertation: Flameless Burning of Baku Natural Gas in Steam-Boiler Furnaces." Cand Tech Sci, Azerbaydzhani Industrial Inst imeni M. Azizbekov, 10 Mar 54. (Bakinskiy Rabochiy Baku, 2 Mar 54)

SO: SUM 213, 20 Sep 1954

MOISEYEV, A.Ye., kand.sel'skokhozyays tvennykh nauk; SHTEYNBERG, G.G.

Grain harvesting in separate stages to control the shield bug  
Eurygaster integriceps. Dokl. Akad. sel'khoz. 23 no.1:20-22  
'58. (MIRA 11:5)

l.Donskoy zonal'nyy nauchno-issledovatel'skiy institut sel'skogo kho-  
zyaystva.  
(Eurygasters) (Grain--Diseases and pests)

ARKHANGEL'SKIY, N.N.; SHTEYNBERG, G.G., nauchnyy sotrudnik; SHARKOVA, V.Ye.

Poisoned objects providing cover as a method for controlling  
injurious insects. Zashch. rast. ot vred. i bol. 5 no.9:27-32  
(MIRA 15:6)  
S '60.

1. Chlen-korrespondent Vsesoyuznyy akademii sel'skokhozyaystvennykh  
nauk imeni V.I. Lenina (for Arkhangel'skiy). 2. Nachal'nik  
uchastka Rostovskogo ot'dela bor'by s vreditelyami sel'skogo  
khozyaystva (for Sharkova).  
(Insecticides)

SHTEYNBERG, G. G., nauchnyy sotrudnik

Controlling cutworms on corn. Zashch. rast. ot vred. i bol. 6  
no.6:29-30 '61. (MIRA 16:4)

1. Donskoy institut sel'skogo khozyaystva, Rostov-na-Donu.

(Rostov Province—Corn(Maize)—Diseases and pests)  
(Rostov Province—Cutworms—Extermination)

SHTEYNBERG, G.G., starshiy nauchnyy sotrudnik; KHLEVNAYA, N.G.

Tropotox for weed control in pea fields. Zashch. rast. ot vred.  
i bol. 7 no.10:31 0 '62. (MIRA 16:6)

(Herbicides)

YEFIMKINA, S.S.; KOLENKOV, E.V.; SHNEYERSON, M.B.; SHTEYNBERG, G.G.

Methods of searching for structures of reef origin in the Orenburg part  
of the Ural Mountain region. Razved. geofiz. no.1:17-26 '64. (MIRA 18:7)

SHTEYNBERG, Grigorii Il'ich; YANUSHKEVICH, Vladimir Andreyevich; SAZONOV, A.G., inzhener, redaktor; VERINA, G.P., tekhnicheskii redaktor

[Repair of locomotives in depots; practices of the Chelkar depot of the Orenburg Railroad] Remont teplovozov v depo; iz opyta raboty depo Chelkar Orenburgskoi dorogi. Moskva, Gos.transp.zhel-dor. izd-vo, 1957. 99 p. (MIRA 10:9)  
(Chelkar--Locomotives--Maintenance and repair)

SHTEYNBERG, G.I.

Diesel locomotives operating on long runs. Elek. i tepl. tiaga  
no.2:17-18 F '57. (MLRA 10:5)

1. Glavnnyy inzhener depo Chelkar Orenburgskoy dorogi.  
(Diesel locomotives)

SHTEYNBERG, G.S.

Combined use of geophysical methods in making large-scale maps.  
Zap. LGI 39 no.2:114-118 '61. (MIRA 15:2)  
(Geology--Maps) (Prospecting--Geophysical methods)

S/169/62/000/009/044/120  
D228/D307

AUTHORS: Shteynberg, G. S., Rivosh, L. A. and Chirkov, A. M.

TITLE: Magnetic survey in the vicinity of the Avachinskaya group of volcanos in Kamchatka

PERIODICAL: Referativnyy zhurnal, Geofizika, no. 9, 1962, 37, abstract 9A247 (Geologiya i geofizika, no. 2, 1962, 101-108)

TEXT: A magnetic survey, which included airborne ( $\Delta T$ ) and ground ( $\Delta z$ ) magnetic observations, was made in 1959-1960 near the Avachinskaya group of volcanos. The procedure is described, and the results of the airborne and ground magnetic surveys are analyzed in detail. The authors also give a map of the  $\Delta T$  graphs for the area of the Avachinskaya group of volcanos, a picture of the anomalous field above the meridional fault near the Karymskiy Volcano, and the  $\Delta z$  isodynamic lines on the Avachinskaya Volcano's active cone. Conclusions are drawn regarding the study area's geologic-tectonic structure. *[Abstracter's note: Complete translation.]*

Card 1/1

SHTEYNBERG, G.S.; ZUBIN, M.I.

Depth of bedding of the magnetic chamber under Avacha Volcano.  
Dokl. AN SSSR 152 no.4:968-971 0 '63. (MIRA 16:11)

1. Institut vulkanologii Sibirskogo otdeleniya AN SSSR.  
Predstavleno akademikom A.A. Trofimukom.

ZUBIN, M.I.; FEDOROV, M.V.; CHIRKOV, A.M.; SHTEYNBERG, G.S.

Crater of the Avacha Volcano and its status in the summer of  
1961. Biul. vulk. sta. no.36:24-36 '64. (MIRA 17:9)

SHTEYNBERG, G.S.; RYNDIN, E.A.; CHIRKOV, A.M.

Study of the geomagnetic field on the Avacha volcano. Geomag. i  
aer. 4 no.5:972-974 S-0 '64. (MIRA 17:11)

I. Institut vulkanologii Sibirekogo otdeleniya AN SSSR,

SHTEYNBERG, G.S.

Concerning V.M. Avdulov's article "Geological nature of  
the gravity anomalies of Mount Elbrus." Izv. AN SSSR.  
Ser. geol. 29 no.4:100 Ap'64. (MIRA 17:5)

SHTEYNBERG, G.S.

Activity and structure of the Krasheninnikov Volcano. Siul. vulk.  
sta. no. 37:16-20 '64. (MIRA 18:3)

AVER'YANOV, V.; GORESHKOV, A.P.; DZHERBASHYAN, R.A.; FARBEROV, A.;  
SHTEYNBERG, G.S.

Crater of the Klyuchevskaya Sopka in September 1962. Biul.  
vulk. sta. no.37:33 '64. (MIRA 18:3)

## ANSWER TO THE CHIEF QUESTIONS, ETC.

1956. Areal study of Ionian basin. Bull. Geol. i geofiz. no. 7-13-33  
(MERA 18:8)

1. Rajonny geofizicheskiy brez, Leningrad i Institut vulkanologii  
Sibirskogo otdeleniya Akad. g. Petropavlovsk-Kamchatskiy.

APPROVED FOR RELEASE: 07/13/2001

CIA-RDP86-00513R001550020012-5"

RYNDIN, E.A.; CHIRKOV, A.M.; SHTEYNBERG, G.S.

Magnetic survey of the Avacha Volcano. Biul. vulk. sta.  
no. 38:33-38 '64. (MIRA 18:3)

SH:YURIG, A. A.

Inapplicability of hydrodynamic simulation in determining the cause of  
the genesis of lunar craters. Dokl. Akad. Nauk SSSR, no. 185-57, 3 '65.  
(MIRA 18:10)

I. Institut vulkanologii i glaciologii et. Akad. Nauk. Submitted  
May 12, 1965.

L 3266-66 FSS-2/EWT(1)/EWA(d)/T IJP(c) GW  
ACCESSION NR: AP5024868

UR/0011/65/000/010/0015/0027  
523.34+(571.66)

29  
36  
B

AUTHOR: Shtaynberg, G. S. 44, 55

TITLE: Comparison of the morphology of lunar craters and ring formations with some volcanic formations on Kamchatka.

SOURCE: AN SSSR. Izvestiya. Seriya geologicheskaya, no. 10, 1965.  
15-27

TOPIC TAGS: planetary astronomy, lunar surface, <sup>1965</sup> lunar photography,  
lunar topography

ABSTRACT: At present two main hypotheses (volcanic and meteoritic) concerning the formation of the lunar surface are accepted as plausible. The basic problem now is the determination of the preponderant role of one or the other factor in the course of various stages of lunar development. Observations of the lunar surface, study of lunar atlases, aerial photographs, and aerial visual observations in the Eastern volcanic belt and in the Klyuchevskaya group of volcanoes have made it possible to detect a number of morphologically similar

Card 1/2

L 3266-66

ACCESSION NR: AP5024868

3

objects on the lunar surface and in the Kamchatka volcanic zone. Of particular interest is the little-known Krasheninnikov Volcano situated on the eastern shore of Kamchatka south of Lake Kronotskiy. However, volcanic explosion craters (maars) have the greatest similarity to lunar craters. Comparison of some Kamchatka craters and maars with numerous small lunar craters reveals a very similar morphology. This conclusion is confirmed through a comparison of their topographic profiles. Despite these similarities to terrestrial volcanoes, the meteoritic factor should not be ignored since meteoritic bombardment played no less a role in the formation of the lunar relief than did the exogenous factors and sedimentation in the shaping of the earth's relief. However, the assertions of some adherents of the meteoritic hypothesis to the effect that the lunar seas and craters are flooded with lava, formed by melting in meteoritic explosions, are incorrect, and are not supported by calculations. Orig. art. has: 18 figures. [JJ]

ASSOCIATION: Institut vulkanologii SO AN SSSR, (Petropavlovsk-Kamchatskiy)  
(Institute of Volcanology, SO AN SSSR)

Card 2/3

L 3266-66

ACCESSION NR: AP5024868

SUBMITTED: 04 Jan 65

ENCL: 00

SUB. CODE: CAA/LES

NO REF SOV: 007

OTHER: 008

ATD PRESS: 4106

Card 3/3

L 13085-66 EWT(1)/EWA(h) GW

ACC NR: AP6001294

SOURCE CODE: UR/0210/65/000/008/0129/0133

AUTHOR: Balesta, S. T.; Shteynberg, G. S.

ORG: Institute of Vulcanology, Siberian Department, AN SSSR, Petropavlovsk-Kamchatskiy (Institut Vulkanologii Sibirsckogo otdeleniya AN SSSR)

TITLE: Seismic prospecting in the Avachinskiy volcanic region 22

SOURCE: Geologiya i geofizika, no. 8, 1965, 129-133 B

TOPIC TAGS: geology, seismic prospecting, holography

ABSTRACT: Since 1960, the Institute of Vulcanology has been conducting a complex geophysical study of the deep geological structure of the Avachinskiy volcanic group. One of the important problems in this study has been to determine the depth of the deposit and the nature of the foundation beneath the Avachinskiy chain. The behavior of the surface of this foundation has been theoretically determined by gravimetric mapping, but the problem of the depth of the deposit has not been satisfactorily solved due to insufficient data. The authors discuss the difficulties involved in trying to solve the problem by seismic prospecting. A description is

Card 1/2

UDC: 550. 834 (571.66)

L 13085-66

ACC NR: AP6001294

given of the equipment and methods used for seismic prospecting. It was found that waves with high apparent velocity appear in the first arrivals at distances of 2-4 km. Experimental data indicate that the nature of vulcanism in this region has been invariant from the initial stages to the present time. A composite hodograph is given together with the geologic section of this region. Gravimetric data show that the width of the fault which borders the Avachinskiy graben is 1.2 km. The most probable value of the excess density is  $0.35 \text{ g/cm}^3$  and the corresponding recomputed fault width is approximately 800 meters, while the average density of the rocks which fill the graben is  $2.30-2.35 \text{ g/cm}^3$ . Orig. art. has: 4 figures, 1 table.

SUB CODE: 08/ SUBM DATE: 31Sep64/ ORIG REF: 007/ OTH REF: 002

Card 2/2

HW

L 13903-66 EWT(1)/EWA(h)/FSS-2 GW  
ACC NR: AP6003248

SOURCE CODE: UR/0020/65/165/006/1294/1297

AUTHOR: Shteynberg, G. S.

ORG: Institute of Vulcanology, Siberian Department, Academy of Sciences SSSR (Institut vulkanologii Sibirskogo otdeleniya Akademii nauk SSSR)

TITLE: Mechanism responsible for volcanic tremors and long range forecasting of eruptions

SOURCE: AN SSSR. Doklady, v. 165, no. 6, 1965, 1294-1297

TOPIC TAGS: volcano, earthquake, volcanic eruption, seismology, wave theory

ABSTRACT: The author points out the following flaws in the model proposed by Omer for generation of volcanic tremors (G. Omer, Bull. Seism. Soc. Am., 40, 1950): 1. this model does not give a satisfactory explanation for tremor periods of 2.5-3.5 seconds which were observed on Kilauea; 2. the formulas given for low and high frequency components of tremors are not observed in most volcanoes; 3. all volcanoes do not show topographic deformations similar to those observed on Kilauea; 4. the proposed model is applicable only for eruptions of the Hawaiian type which are accompanied by a discharge of molten alkaline lava. Discrepancies are also pointed out in

Card 1/2

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B

12

L 13903-66

ACC NR: AP6003248

the model proposed by Shimoruru and Berg (D. Shimoruru, E. Berg, Bull. Seances Acad. Roy. Sci., 7, No 4 (1961)). The author proposes a model for volcanic structure based on experimental observation with as few assumptions as possible. An equation is given for the period of the normal mode in the proposed system. Substitution of experimental data on the period and velocity of the longitudinal waves at Kilauea in this formula gives a depth of 3.1-5.2 km for the peripheral magmatic chamber beneath the volcano. This agrees well with the value of 3.5-5.0 km determined from deformation of the earth's crust. It is shown that a study of volcanic tremors in a wide frequency interval may serve as a basis for long range forecasts of eruptions using seismic observations. Orig. art. has: 1 figure, 5 formulas.

SUB CODE: 08/ SUBM DATE: 29Jun64/ ORIG REF: 004/ OTH REF: 013

TS  
Card 272

ACC NR: AP7013732

SOURCE CODE: UR/0020/66/166/002/0440/0443

AUTHOR: Shteynberg, G. S.ORG: Institute of Vulcanology, SO AN SSSR (Institut vulkanologiya  
SO AN SSSR)TITLE: Structure of the earth's crust in Southern Kamchatka and the  
structural position of quaternary volcanoes

SOURCE: AN SSSR. Doklady, v. 166, no. 2, 1966, 440-443

TOPIC TAGS: volcanology, earth crust, earthquake, tectonics

SUB CODE: 08

**ABSTRACT:** A considerable amount of seismic, gravimetric and tectonic data are reviewed concerning the structure of the earth's crust and the structural-tectonic position of Quaternary volcanoes. It was found that within the limits of southern Kamchatka the earth's crust is of the continental type. The thickness of the crust varies from 26 to 38 km, on the coast of the Sea of Okhotsk being 30-33 km, on the Pacific Ocean coast -- 26-30 km, and in central Kamchatka -- 32-38 km. The volcanic groups are controlled by steeply dipping deep faults related to the zones of bending of the M discontinuity. Along these faults there

Card 1/2

UDC: 551.241

093.3 2217

ACC NR: AP7013732

usually are displacements of the top of the basalt layer and the M discontinuity. The formation of magma occurs at depths of 80-150 km in areas of intersection of deep faults with the focal zones of earthquakes extending under Kamchatka and the Kurile Islands. The local distribution of volcanoes (within the volcanic group) is controlled by disruptions of a relatively shallow position determining the deep faults. This paper was presented by Academician V. S. Sobolev on 21 December 1964. The author thanks Geophysicists of the Kamchatka Geology Administration, V. I. Brashayev and G. P. Dekin, for compiling the maps; and the workers of the Institute of Vulcanology, Corresponding Member AN SSSR B. I. Plip, Ye. K. Markhinin, and E. N. Erlikh for participating in the discussions of the work. Orig. art. has: 3 figures. [JPRS: 34,593]

Card 2/2

AID P - 1496

Subject : USSR/Medicine

Card 1/1 Pub. 37 - 11/19

Author : Shteynberg, G. V., Industrial Sanitary Inspector

Title : A case of cow fever of occupational origin

Periodical : Gig. i san., 2, 46-47, F 1955

Abstract : A case of cow-fever in one of the Soviet wool-spinning mills is described. The author states that this illness of Australian origin and known before only in America, Africa and Asia can also occur in the USSR, and that it should be considered an an occupational disease. Preventive measures for workers in the wool industry are recommended.

Institution: Medical and Epidemiological Station, Moskvoretsk District, Moscow

Submitted : J1 19, 1954

AUTHORS: Shteynberg, G.V. (Engineer) and Bagotskiy V.S. (Cand. Chem.Sci.) 110-7-10/30

TITLE: Some special features of the operation of the positive electrode in a chromic-acid cell. (Nekotorye osobennosti raboty polozhitel'nogo elektroda elementa s khromovoy kislotoy).

PERIODICAL: "Vestnik Elektro promyshlennosti" (Journal of the Electrical Industry, Vol.28, No.7, 1957, pp.34-38 (USSR).

ABSTRACT: Galvanic cells based on the electric-chemical system C/H<sub>2</sub>Cr<sub>2</sub>O<sub>7</sub>, H<sub>2</sub>SO<sub>4</sub>/Zn are still used because of their comparatively high power, their ability to work at low temperatures and the possibility they afford of compact construction. During the discharge of a chromic acid cell some phenomena are observed, the nature of which are not yet clear. For instance, under some conditions of discharge the cell voltage drops in jumps of 0.2 - 0.3 volts after which the element continues to operate at normal capacity. Under other conditions of discharge the cell voltage suddenly falls almost to zero despite the presence of a considerable reserve of unused active substances. Both these phenomena are associated with step-wise change in the potential of the carbon electrode. The effect of

Card  
1/5

Some special features of the operation of the positive electrode in a chromic-acid cell. (Cont.) 110-7-10/30

step-wise change in the potential of the carbon electrode by 0.1-0.3 volts in the negative direction has been called the "partial passivation" of the carbon, and the effect of step-wise reduction of potential by one volt or more is called "total passivation" of the carbon. It is well known that cathodic polarisation of metals in chromic acid occurring at some definite current density causes a sharp potential jump in the negative direction after which separation of hydrogen commences. A similar potential jump has also been observed on the carbon electrode. This effect which is apparently analogous with "total passivation" of the carbon is usually explained as being due to the formation on the cathode of a screening diaphragm of trivalent compounds.

Carbon materials may differ widely in physical-chemical properties and it was therefore of interest to find out whether partial passivation is a general property of carbon electrodes or is associated with special features of some particular types of carbon. The investigations were made on 9 types of carbon of different physical-chemical properties, see Table 1. The investigations were

Card  
2/5

Some special features of the operation of the positive electrode in a chromic-acid cell. (Cont.) 110-7-10/30

made by taking polarisation curves, and a number of physical-chemical properties of the carbon were also determined.

Fig.1 shows curves of the relationship between the potential (measured against a normal hydrogen-electrode) and the current density, and Fig.2 shows curves of the potential as a function of time for different types of carbon. It is seen that for all types of carbon, at current densities of 180-200 mA/cm<sup>2</sup> there is a sharp jump of potential of 1 to 1.2 V in the negative direction (total passivation). Separation of hydrogen commences after the jump. At lower current densities of 5-60 mA/cm<sup>2</sup> three of the nine types of carbon investigated displayed step-wise potential displacement of 0.1-0.3 V (partial passivation). The same three types of carbon display step-wise potential reduction during polarisation at a constant current density of 5-40 mA/cm<sup>2</sup>.

Fig.3 shows polarisation curves taken on a rotating carbon electrode at different speeds of rotation. As the speed is increased from 0 to 1200 rpm the current density at which

Card  
3/5

Some special features of the operation of the positive electrode in a chromic-acid cell. (Cont.) 110-7-10/30  
total passivation commences increases threefold.

In order to study the influence of the solution composition, potential/time curves were determined with constant current density on the cathode in solutions with different concentrations of chromic and sulphuric acids, trivalent chromium and salt. Fig.4 shows curves taken on solutions with different concentrations of chromic acid with constant total solution acidity. On the basis of the experimental data that was obtained it may be concluded that the effect of total passivation of carbon is caused by definite concentration changes in the layer of solution adjacent to the electrode. The removal of these concentration changes also removes total passivation of the carbon which demonstrates the absence of an insoluble diaphragm of chromium salts at the carbon surface under conditions of total passivation.

The effect of partial passivation is not associated with changes in concentration near the electrode. Partial passivation is a general property not only of carbon electrodes, but of inert metal electrodes in general

Card  
4/5

Some special features of the operation of the positive electrode in a chromic-acid cell. (Cont.) 110-7-10/30

(platinum and gold) in chromic acid. Partial passivation depends on the nature of the carbon, the composition of the solution and preliminary polarisation of the electrode. Change in the composition of the solution or preliminary treatment of the carbon can vary both the electrode potential before and after partial passivation, and the time to the commencement of partial passivation. Data on the influence of mixing, the composition of the solution and preliminary treatment of the carbon on partial passivation show that this effect is not associated with the deposition of chromium compounds of low solubility. Partial passivation is caused by change in the state of surface of the carbon under the influence of the process of reduction of chromic acid.

Card

5/5

There are 4 figures, 9 references, 1 of which is Slavic.

ASSOCIATION: NIEEI.

AVAILABLE:

Shteynberg, G. V.

20-3-41/59

AUTHORS:

Shteynberg, G. V., Bagotskiy, V.S.,

TITLE:

Certain Features in the Cathodic Reduction of Chromic Acid on a Carbon Electrode (Nekotoryye osobennosti katodnogo vostanovleniya khromovoy kisloty na ugol'nom elektrode)

PERIODICAL:

Doklady Akademii nauk SSSR, 1957, Vol. 115, Nr 3, pp. 568-571, (USSR)

ABSTRACT:

In the case of cathodic polarization of a carbon - or any other inert electrode - in a solution of chromic acid a sudden check of the reaction of reduction of the chromic acid anion  $\text{Cr}_2\text{O}_7^{2-} + 14 \text{H}^+ + 6e \rightarrow 2\text{Cr}^{3+} + 7\text{H}_2\text{O}$  is often observed. This check is accompanied by a instantaneous shift of the potential to the negative, which is followed by a reaction of hydrogen separation (a complete inactivation of the electrode). Apart from this phenomenon, in some instances a small shift of a few tenths of a Volt have been observed in the case of densities, where the potential of hydrogen separation has not been reached. The complete inactivation of inert electrodes in solutions of chromic acid was the object of investigations of several authors. In the paper under consideration the influence of a series of factors (composition of the solution, of stirring and of the treatment of the electrode) on the partial inactivation of the carbon electrode was studied. From the figures it can be seen, that the potential of the upper and lower niveau of the curve, corresponding to the active and partially inactive

C.

Card 1/3

reaction are to ... ---, that the experimental results obtained here ... ---, that the check is produced by the formation of a precipitate consisting of compounds with small solubility

Certain Features in the Cathodic Reduction of Chromic Acid on a  
Carbon Electrode.

20-3-41/59

activation is connected with a modification of the state of the oxyde layers on the surface of the electrode. Several facts speak in favour of the concept, that some forms of the surface oxydes correspond to the active condition of the electrode. They vanish during the cathodic polarisation and reappear during the soft anodic polarization of the carbon. The phenomenon of partial inactivation of the carbon-electrode can be explained as a modification of the electrochemical mechanism of the reaction of ion-reduction of the 6-valent chromium into three valent chromium. This transition takes place because of the modification of the oxyde layers on the electrode surface. Phenomena of the same qualitative character were observed on inert platinum and gold electrodes. There are three figures.

ASSOCIATION: State Union Scientific Research Carbon Electrode Institute.  
(Gosudarstvennyy soyuznyy nauchno-issledovatel'skiy elemento-elektrougol'nyy institut)

PRESENTED BY: Frumkin, A. N., Academician, Feb. 11, 1957

SUBMITTED: February 5, 1957

AVAILABLE: Library of Congress  
Card 3/3

SHTEYNBERG, G.V., Cond. Chem. Sci. — (Disc) "Study of processes  
taking place on the positive electrode <sup>of the</sup> ~~of~~ <sup>the</sup> source ~~of~~ <sup>the</sup> current with a  
chromic acid electrolyte." Mos., 1959. 9 pp. (Mos. State Univ. in. M.V.  
Lomonosov). 100 copies (KL, 22-53, 94)

-27-

USSR/Physics - Quantum optics

FD-1850

Card 1/1 Pub. 146-10/25

Author : Sokolov, A. V.; Cherepanov, V. I.; Shteynberg, I. B.

Title : Dispersive formulas of quantum optics of metals in the poly-electron theory taking into account of electron damping

Periodical : Zhur. eksp. i teor. fiz. 28, 330-334, March 1955

Abstract : For an aggregate of interacting electrons described by the general wave functions the authors derive the dispersive formulas of quantum optics of metals taking into account electron damping. One reference; namely, A. V. Sokolov, ibid., 25, 341, 1953.

Institution: Institute of Physics of Metals of Ural Affiliate, Academy of Sciences USSR

Submitted : March 12, 1954

BARENBOYM, A.B., inzh.; MINKUS, B.A., kand.tekhn.nauk, dotsent;  
SHTEYNBERG, I.B., inzh.

Experimental investigation of a freon air cooler with flat  
pipes. Khol. tekhn. 38 no.6:7-10 N-D '61. (MIRA 15:1)

1. Odesskiy tekhnologicheskiy institut pishchevoy i kholodil'noy  
promyshlennosti (for Barenboym, Minkus). 2. Penzenskiy dizel'nyy  
zavod (for Shteynberg).  
(Air conditioning--Equipment and supplies)

ACC NR: AP6024261

SOURCE CODE: UR/0066/66/000/007/0027/0029

AUTHOR: Martynovskiy, V. S. (Doctor of technical sciences, Professor); Minkus, B. A. (Candidate of technical sciences, Docent); Barenboym, A. B. (Candidate of technical sciences); Shteynberg, I. B.

ORG: [Martynovskiy, Minkus, Barenboym] Odessa Technological Institute of the Food and Refrigeration Industry (Odesskiy tekhnologicheskiy institut pishchevoi i kholodil'noy promyshlennosti); [Shteynberg] Penza Diesel Plant (Penzenskiy dizel'nyy zavod)

TITLE: Cooling the air in an internal-combustion-engine supercharging system

SOURCE: Kholodil'naya tekhnika, no. 7, 1966, 27-29

TOPIC TAGS: supercharged engine, internal combustion engine, engine combustion system, combustion augmentation, diesel engine cooling

ABSTRACT: The range and effectiveness of augmenting internal combustion in engines through supercharging are determined by the increase of pressure in the supercharger and by the subsequent amount of air cooling. Intermediate air cooling lowers the temperature of the engine's operating cycle and simultaneously lowers thermal stress. At low air temperature the required density is attained with low super-

Card 1/3

UDC: 621.43:546.217:542.46

L 38457-66

ACC NR: AP6024261

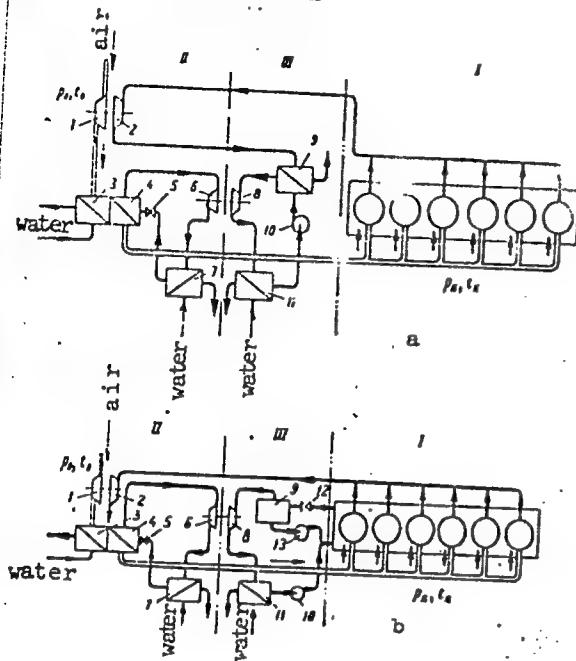


Fig. 1. Air-cooling system utilizing exhaust-gas heat (a) and water vaporization for engine (b) cooling

I - Engine; II - supercharging and cooling system; III - refrigeration compressor: 1 - centrifugal compressor; 2 - gas turbine; 3 - freon air cooler; 4 - regulating valve; 5 - freon compressor; 7 - condenser; 8 - refrigeration compressor turbine; 9 - waste heat boiler; 10 & 13 - pumps; 11 - condenser; 12 - throttle valve.

therefore be lowered along with the engine's mechanical stress. The  
Card 2/3

ACC NR: AP6024261

increased degree of supercharging used by modern engines necessitates greater cooling of air, and air and steam cooling systems are used to cool it below the temperature of the surrounding medium. Both of these systems were analyzed, and the steam cooling cycle was found to be most effective. The Penza Diesel Plant in cooperation with the OTIPKhP has developed a more sophisticated heat-recovery unit for air cooling, which features minimum size and weight (see Fig. 1). A feature of this system is the use of the engine's water-jacket space as the freon boiler. In this way the heat acquired by cooling the engine is used, and the freon-turbine condenser is exchanged for the water of the cooling area. The vapor cooling cycle can also be used with water-vaporization engine cooling (Fig. 1, b), but in this case an elevated temperature is produced in the water-jacket space. The type of cooling and its drive depends on the operating conditions and on the type of engine. For low-powered diesels and two-cycle automotive diesel engines, it is feasible to use a piston-type or rotary compressor driven from the engine's shaft. For powerful motor vehicles, the best system is one using a centrifugal compressor and turbine operating on exhaust gases. For marine and stationary engines, where there is an adequate supply of cooling water, it is more practical to use a cooling unit which recovers heat. The air cycle can only be used for four-cycle engines with low supercharging pressure. Modern supercharged engines should use vapor compressors. Orig. art. has: 4 figures. [KT]

SUB CODE: 21/ SUBM DATE: none/ ORIG REF: 001/ ATD PRESS: 5048

Card 3/3

KRENDEL', A.S.; SHTEYNBERG, I.P.

Burning natural gas under steam boilers by means of multinozzle  
jet burners. Sakh.prom. 34 no.1:40-46 Ja '60.  
(MIRA 13:5)

1. Giprosakhar.  
(Boilers) (Gas burners)

AUTHOR: Shteynberg, I.S., Candidate of Technical Sciences SOV/122-58-6-20/37

TITLE: A Method for Forming of Swarf Curling Craters on Cutting Tools (Spособ образования стружкоизвивавшихся лунок)

PERIODICAL: Vestnik Mashinostroyeniya, 1958, № 6, pp 54-55 (USSR)

ABSTRACT: The procedure and tooling for forming craters at the tips of cutting tools as developed and widely used in the shops of the LTZ (Lipetsk Tractor Works) are described. Bronze disc laps, charged with boron carbide, are used in tool grinders or milling machines. Boron carbide of 220-280 grit with paraffin liquid produces craters of adequate surface finish. A typical crater of 1.4-1.9 mm width and 0.15-0.20 mm depth extends over most of the length of the cutting edge. The edge of the crater is about 0.22 mm away from the cutting edge. Examples of curvilinear craters are shown. There are 5 figures.

Card 1/1 1. Cutting tools--Design

SHTEYNBERG, I.S.

Using the cutting process for increasing fatigue strength of  
machine parts. Trudy Sem.po kach.poverkh. no.4:55-78 '59.  
(MIRA 13:6)  
(Metal cutting) (Metals--Fatigue)

SHTEYNBERG, I.S.

Using hardening calking for increasing the fatigue strength of  
machine parts. Trudy Sem.po kach.poverkh. no.4:211-224 '59.  
(MIRA 13:6)  
(Hard facing)

SHVARTZBERG, I. S.

The Application of Cold Working by Hammering for Increasing the Fatigue Resistance of Parts of Tractors and Combine Harvesters

Povysheniye iznosostoykosti i sroka sluzhby mashin. t. 2 (Increasing the Wear Resistance and Extending the Service Life of Machines. v. 2) Kiyev, Izd-vo AN UkrSSR, 1960. 290 p. 3,000 copies printed. (Series: Its: Trudy, t. 2)

Sponsoring Agency: Vsesoyuznoye nauchno-tekhnicheskoye obshchestvo mashinostroitel 'noy promyshlennosti. Tsentral 'noy i Kiyevskoye oblastnoye pravleniya. Institut mekhaniki AN UkrSSR.

Editorial Board: Resp. Ed.: B. D. Grozin; Deputy Resp. Ed.: D. A. Draygor; M. P. Braun, I. D. Faynerman, I. V. Kragel 'skiy; Scientific Secretary: M. L. Barabash; Ed. of v. 2: Ya. A. Samokhvalov; Tech. Ed.: N. P. Rakhlina.

COVERAGE: The collection contains papers presented at the Third Scientific Technical Conference held in Kiyev in September 1957 on problems of increasing the wear resistance and extending the service life of machines. The conference was sponsored by the Institut stroitel 'noy mekhaniki AN UkrSSR (Institute of Structural Mechanics of the Academy of Sciences Ukrainian SSR), and by the Kiyevskaya oblastnaya organizatsiya nauchno-tekhnicheskogo obshchestva mashinostroitel 'noy promyshlennosti (Kiyev Regional Organization of the Scientific Technical Society of the Machine-Building Industry).

S/122/60/000/010/006/015  
A161/A030

AUTHOR: Shteynberg, I.S., Engineer

TITLE: Raising the Fatigue Resistance of Shafts by Strengthening  
Turning

PERIODICAL: Vestnik mashinostroyeniya, 1960, No.10, pp. 34-35

TEXT: It is known that fatigue resistance of machine parts can be raised by turning with special carbide cutters with an end cutting edge angle of from  $-40^\circ$  to  $-50^\circ$  after heat treatment. At Lipetskiy traktornyiy zavod (Lipetsk Tractor Works) a cutter shown in the illustration (Fig.2) is used for strengthening turning of the torsion shaft (Fig.1) of the "T-38" tractor. Instead of 12 operations by the old plant's technology, seven only are used: trimming the butt ends, rough turning, heat treatment, straightening, high-speed milling of the splines by a disc mill, and coining of the spline bottoms. The new cutter is tipped with hard alloy "T30K4", and strengthening turning is done in one pass with  $t = 0.5 \div 0.7$  mm;  $s = 0.75$  mm/rev;  $v = 20$  m/min on a 1Д63(1D63) lathe along a tracer ruler with the

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Card 1/3

S/122/60/000/010/006/015  
A161/A030

Raising the Fatigue Resistance of Shafts by Strengthening Turning

use of a pneumatic two-roller support. (No further details of the lathe operation are included). The tailstock of the lathe is provided with a rotating center, and coolant is poured copiously into the cutting area during the turning process. The fatigue resistance of shafts is 2.4 times higher than of polished shafts and 1.2 times higher than of shafts strengthened by rolling with rollers. Tractors with turning-strengthened torsion shafts have been working for two years without a single case of fatigue failure. A photo (Fig.3) shows the 40 micron layer of deformed martensite on the shaft surface formed in turning, a 10-15 micron layer of troostite under it, and below troostite-martensite or troostite-sorbite base metal which formed in heat treatment. An epure shows the favourable distribution of residual stresses in the shaft. There are 4 figures.

Card 2/3